What is claimed is:

1   1. An optical reader comprising:

2   a color imaging assembly for acquiring an image of an object, the color

3   imaging assembly generating color imaging data corresponding to the image;

4   an image analysis circuit coupled to the color imaging assembly, the image

5   analysis circuit being configured to determine if the color imaging data includes at

6   least one graphical symbol, whereby the image is classified as a graphical symbol

7   image if the color imaging data includes at least one graphical symbol, or the image is

8   classified as a color photograph if the color imaging data does not include at least one

9   graphical symbol; and

10   a processing circuit coupled to the image analysis circuit, the processing

11   circuit being operative to process the color imaging data based on the classification of

12   the image.

1   2. The optical reader of claim 1, wherein the processing circuit decodes a 1D

2   bar code symbol based on the classification.

1   3. The optical reader of claim 1, wherein the processing circuit decodes a 2D

2   bar code symbol based on the classification.

1   4. The optical reader of claim 1, wherein the processing circuit performs

2   optical character recognition based on the classification.

1   5. The optical reader of claim 1, wherein the processing circuit performs a

2   signature capture based on the classification.

1   6. The optical reader of claim 1, wherein the processing circuit stores a color

2   image based on the classification.

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4   7. The optical reader of claim 1, wherein the portion of the color imaging data

1   is processed by evaluating only green pixel values in the color imaging data.

1   8. The optical reader of claim 1, wherein the classification circuit aggregates
2   values of a red, blue and green triplet to form a super-pixel in the process of selecting
3   one of a plurality of classifications.

1   9. The optical reader of claim 1, wherein the color imaging data is converted
2   into a gray scale image in the process of selecting one of a plurality of classifications.

1   10. The optical reader of claim 1, further comprising an illumination light
2   source including white LEDs.

1   11. The optical reader of claim 1, further comprising an illumination light
2   source including red LEDs.

1   12. An optical reader for capturing an image of an object, the optical reader
2   comprising:
3   a color imaging assembly for converting the image of the object into color
4   digital data corresponding to the image;
5   an automatic mode selection circuit coupled to the color imaging assembly,
6   the mode selection circuit using at least a portion of the color digital data to select one
7   of a plurality of operational modes of the optical reader, the operational modes
8   including at least graphical symbol mode and a color photography mode; and
9   a processing circuit coupled to the mode selection circuit, the processing
10 circuit being configured to process the color digital data based on the selected
11 operational mode.

1   13. The optical reader of claim 12, wherein the at least one graphical symbol
2   mode includes decoding a 1D bar code.
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4   14. The optical reader of claim 12, wherein the at least one graphical symbol

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1   mode includes decoding a 2D bar code.

1   15. The optical reader of claim 12, wherein the at least one graphical symbol
2   mode includes optical character recognition.

1   16. The optical reader of claim 12, wherein the at least one graphical symbol
2   mode includes capturing a signature.

1   17. The optical reader of claim 12, wherein the color photography mode
2   includes storing a color photographic image in a computer-readable medium.

1   18. The optical reader of claim 12, further comprising an illumination light
2   source including white LEDs.

1   19. The optical reader of claim 12, further comprising an illumination light
2   source including red LEDs.

1   20. An optical reader for capturing an image of an object, the optical reader
2   comprising:
3   a color imaging assembly for capturing the image as color imaging data;
4   a classification circuit coupled to the color imaging assembly, the
5   classification circuit being configured to process at least a portion of the color
6   imaging data to thereby select one of a plurality of classifications, whereby the image
7   is classified as a color photographic image, or as an image that includes at least one
8   graphical symbol;
9   an automatic mode selector coupled to the classification circuit, the automatic
10   mode selector being configured to select an optical reader mode in accordance with
11   the selected classification; and
12   a processor coupled to the classification circuit, the processor being
13   programmed to process the color imaging data in accordance with the optical reader
14   mode selected by the automatic mode selector.

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1   21. The optical reader of claim 20, wherein the portion of the color imaging
2   data is processed by evaluating only green pixel values in the color imaging data.

1   22. The optical reader of claim 20, wherein the classification circuit aggregates
2   values of a red, blue and green triplet to form a super-pixel in the process of selecting
3   one of a plurality of classifications.

1   23. The optical reader of claim 20, wherein the color imaging data is converted
2   into a gray scale image in the process of selecting one of a plurality of classifications.

1   24. The optical reader of claim 20, wherein the processor decodes a 1D bar
2   code symbol.

1   25. The optical reader of claim 20, wherein the processor decodes a 2D bar
2   code symbol.

1   26. The optical reader of claim 20, wherein the processor performs an optical
2   character recognition process.

1   27. The optical reader of claim 20, wherein the processor performs a signature
2   capture process.

1   28. The optical reader of claim 20, wherein the processor stores a color image
2   in a computer-readable medium.

1   29. An optical reader for capturing an image of an object, the optical reader
2   comprising:
3   a color imaging assembly for capturing the image as color imaging data;
4   a user mode selector coupled to the color imaging assembly, the user mode
5   selector being switchable between at least one automatic user mode, or a manual user
6   mode for manually selecting one of a plurality of imaging modes of the optical reader,
7   whereby the plurality of imaging modes includes at least one graphical symbol mode
8   and a color photography mode;
9   an automatic imaging mode selector coupled to the user mode selector and the
10   color imaging assembly, the automatic imaging mode selector being operative to
11   automatically select one of the plurality of imaging modes when in the automatic user
12   mode; and
13   a processing circuit coupled to the user mode selector and the automatic mode
14   selector, the processing circuit being programmed to process the color imaging data
15   based on the selected one of the plurality of operational modes.

1   30. The optical reader of claim 29, wherein the plurality of imaging modes
2   includes a 1D bar code decoding mode.

1   31. The optical reader of claim 29, wherein the plurality of imaging modes
2   includes a 2D bar code decoding mode.

1   32. The optical reader of claim 29, wherein the plurality of imaging modes
2   includes an optical character recognition mode.

1   33. The optical reader of claim 29, wherein the plurality of imaging modes
2   includes a signature capture mode.

1   34. The optical reader of claim 29, wherein the plurality of imaging modes
2   includes a color photography mode.

35. A method for acquiring an image of an object with an optical reader, the method comprising:

acquiring first color imaging data representing the image;

analyzing the color imaging data to provide an image classification, whereby the image is classified as a color photograph, or as including at least one graphical symbol; and

processing the color imaging data in accordance with the image classification.

36. The method of claim 35, wherein the step of processing includes decoding a 1D bar code.

37. The method of claim 35, wherein the step of processing includes decoding a 2D bar code.

38. The method of claim 35, wherein the step of processing includes an optical character recognition process.

39. The method of claim 35, wherein the step of processing includes capturing a signature.

40. The method of claim 35, wherein the step of processing includes storing a color photographic image in a computer-readable medium.

41. The method of claim 35, wherein the step of analyzing includes an analysis of only one color of the color imaging data during the step of providing an image classification.

42. The method of claim 35, further comprising:

acquiring at least one second color imaging data representing at least one second image;

analyzing the at least one second color imaging data to provide at least one

5   second image classification, whereby the at least one second image is classified as a

6   color photograph, or as an image including at least one graphical symbol;

7   processing the at least one second color imaging data in accordance with the at

8   least one second image classification; and

9   associating the at least one second color imaging data with the first color

10   imaging data.

1   43. The method of claim 42, wherein the step of associating includes

2   displaying the at least one second color imaging data with the first color imaging data.

1   44. The method of claim 43, wherein the step of associating includes

2   electronically displaying the at least one second color imaging data with the first color

3   imaging data.

1   45. The method of claim 42 wherein the step of associating includes printing

2   the at least one second color imaging data with the first color imaging data.

1   46. The method of claim 42, wherein the step of associating includes linking

2   the at least one second color imaging data with the first color imaging data in

3   memory.

1   47. The method of claim 42, wherein the step of associating includes storing

2   the at least one second color imaging data with the first color imaging data as a record

3   in a database.

1   48. A computer readable medium having computer-executable instructions for

2   performing a method comprising:

3   acquiring color imaging data;

4   analyzing the color imaging data to provide an image classification, whereby

5   the image is classified as a color photograph, or the image is classified as including at

6   least one graphical symbol; and

7   processing the color imaging data in accordance with the image classification.

1   49. In an optical reader having a color imaging assembly for acquiring color

2   imaging data, and a graphical user interface including a display and a selection device,

3   a method for selecting at least one optical reader operating mode, the method

4   comprising:

5   displaying at least one icon on the graphical user interface, the at least one

6   icon corresponding to the at least one optical reader operating mode;

7   clicking on the at least one icon with the selection device to thereby select the

8   at least one optical reader operating mode corresponding to the selected at least one

9   icon; and

10   processing the color imaging data based on the selected at least one icon,

11   whereby the color imaging data is processed as a color photographic image, or as an

12   image that includes at least one graphical symbol.

1   50. In an optical reader having a color imaging assembly for acquiring color

2   imaging data, and a graphical user interface including a display and a selection device,

3   a method of providing and selecting from a menu on the display, the method

4   comprising:

5   retrieving a set of menu entries for the menu, each of the menu entries

6   representing at least one operational mode of the optical reader;

7   displaying the set of menu entries on the display;

8   selecting a menu entry;

9   emitting a menu selection signal indicative of a selected operational mode; and

10   processing the imaging data based on the selected menu entry, whereby the

11 imaging data is processed as a color photographic image or as an image that includes

12 at least one graphical symbol.

1   51. A method for acquiring an image of an object with an optical reader, the

2   method comprising:

3   providing a color imaging assembly;

4   converting the image into color imaging data;

5   classifying the image as either a color photograph, or as a color image that

6   includes at least one graphical symbol; and

7   processing the color imaging data in accordance with the step of classifying.

1   52. A method for acquiring an image of an object with an optical reader, the

2   optical reader having a plurality of imaging modes including at least one graphical

3   symbol mode, and a color photography mode, the method comprising:

4   capturing the image by acquiring color imaging data;

5   analyzing at least a portion of the color imaging data to provide an image

6   classification, whereby the image classification includes at least one graphical symbol

7   classification and a color photography classification;

8   automatically selecting one of a plurality of image processing modes based on

9   the image classification provided in the step of analyzing; and

10   processing the color imaging data based on the selected one of the plurality of

11 image processing modes.

1   53. A method for acquiring an image of an object with an optical reader, the

2   optical reader having a plurality of imaging modes including at least one graphical

3   symbol mode, and a color photography mode, the method comprising:

4   capturing the image by acquiring color imaging data;

5   automatically selecting one of the plurality of imaging modes based on an

6   analysis of the color imaging data; and

7   processing the color imaging data in accordance with a selected one of the

8   plurality of imaging modes.

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1   54. A system for processing at least one image, the system including at least

2 one network element, the system comprising:

3   an optical reader including a color imager and a processor, the color imager

4 being configured to capture the at least one image by generating color imaging data

5 corresponding to the at least one image, the processor being configured to provide a

6 classification of the color imaging data based on whether the color imaging data

7 includes at least one graphical symbol, the processor being programmed to process the

8 color imaging data in accordance with the classification; and

9   a network coupled to the color optical reader and the at least one network

10 element, whereby processed image data is transmitted between the network and the at

11 least one network element.

1   55. The system of claim 54, wherein the network includes the Internet.

1   56. The system of claim 54, wherein the network includes a wireless network.

1   57. The system of claim 54, wherein the network includes a circuit switched

2 network.

1   58. The system of claim 54, wherein the network includes an IP network.

1   59. The system of claim 54, wherein the network includes a private network.

1   60. The system of claim 54, wherein the network element includes a LAN.

61. The system of claim 60, wherein the LAN further comprises:

a server coupled to the network; and

at least one optical reader coupled to the server.

62. The system of claim 61, wherein the at least one optical reader includes a color imager.

63. The system of claim 60, wherein the LAN includes a database, the database being configured to store a plurality of associated processed images.

64. The system of claim 63, wherein the plurality of associated processed images includes a color photographic image associated with decoded bar code data.

65. The system of claim 63, wherein the plurality of associated processed images includes a color photographic image associated with decoded OCR data.

66. The system of claim 63, wherein the plurality of associated processed images includes a color photographic image associated with decoded text data.

67. The system of claim 63, wherein the plurality of associated processed images includes a color photographic image associated with a captured signature.

68. The system of claim 63, wherein the plurality of associated processed images includes decoded bar code data.

69. The system of claim 63, wherein the plurality of associated processed images includes decoded OCR data.

1   70. The system of claim 63, wherein the plurality of associated processed

2   images includes decoded text data.

1   71. The system of claim 63, wherein the plurality of associated processed

2   images includes a captured signature.

1   72. The system of claim 60, wherein the LAN includes a POS terminal.

1   73. The system of claim 60, wherein the LAN includes a credit card

2   authentication module.

1   74. The system of claim 60, wherein the LAN includes a signature verification

2   module.

1   75. The system of claim 54, wherein the network element includes a PAN, the

2   Pan having at least one optical reader coupled thereto.

1   76. The system of claim 75, wherein the at least one optical reader includes a

2   color imager.

1   77. The system of claim 75, wherein the PAN includes a POS terminal.

1   78. The system of claim 54, wherein the network element further comprises:

2   a wireless base station coupled to the network, the wireless base station being

3   configured to transmit and receive processed image data to and from the network; and

4   at least one wireless optical reader coupled to the wireless base station via an

5   RF communications link.

1   79. The system of claim 78, wherein the at least one wireless optical reader

2   includes a color imager.

1   80. The system of claim 54, wherein the processor further comprises an image

2   analysis circuit coupled to the color imager, the image analysis circuit being

3   configured to determine if the color imaging data includes at least one graphical

4   symbol, whereby the image is classified as a graphical symbol image if the color

5   imaging data includes at least one graphical symbol, or the image is classified as a

6   color photograph if the color imaging data does not include at least one graphical

7   symbol.

1   81. The system of claim 54, wherein the processor further comprises an

2   automatic mode selection circuit coupled to the color imager, the automatic mode

3   selection circuit using at least a portion of the color imaging data to select one of a

4   plurality of operational modes of the optical reader, the operational modes including

5   at least graphical symbol mode and a color photography mode.

1   82. The system of claim 54, wherein the processor further comprises:

2   a classification circuit coupled to the color imager, the classification circuit

3   being configured to process at least a portion of the color imaging data to thereby

4   select one of a plurality of classifications, whereby the image is classified as a color

5   photographic image, or as an image that includes at least one graphical symbol;

6   an automatic mode selector coupled to the classification circuit, the automatic

7   mode selector being configured to select an optical reader mode in accordance with

8   the selected one of a plurality of classifications.

1   83. The system of claim 54, wherein the optical reader further comprises:

2   a user mode selector coupled to the color imager, the user mode selector being

3   switchable between at least one automatic user mode, or a manual user mode for

4   manually selecting one of a plurality of imaging modes of the optical reader, whereby

5   the plurality of imaging modes includes at least one graphical symbol mode and a

6   color photography mode;

7   an automatic imaging mode selector coupled to the user mode selector and the

8   color imager, the automatic imaging mode selector being operative to automatically

9   select one of the plurality of imaging modes when in the automatic user mode.